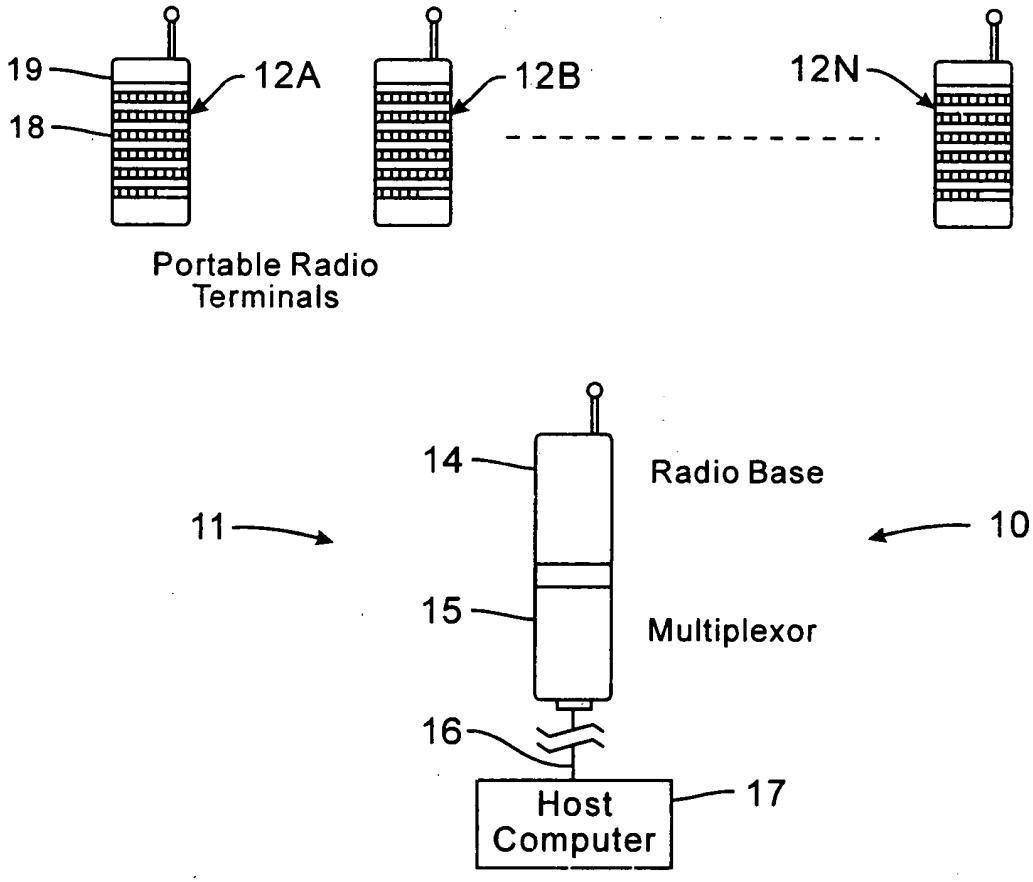


Fig. 1
(Prior Art)

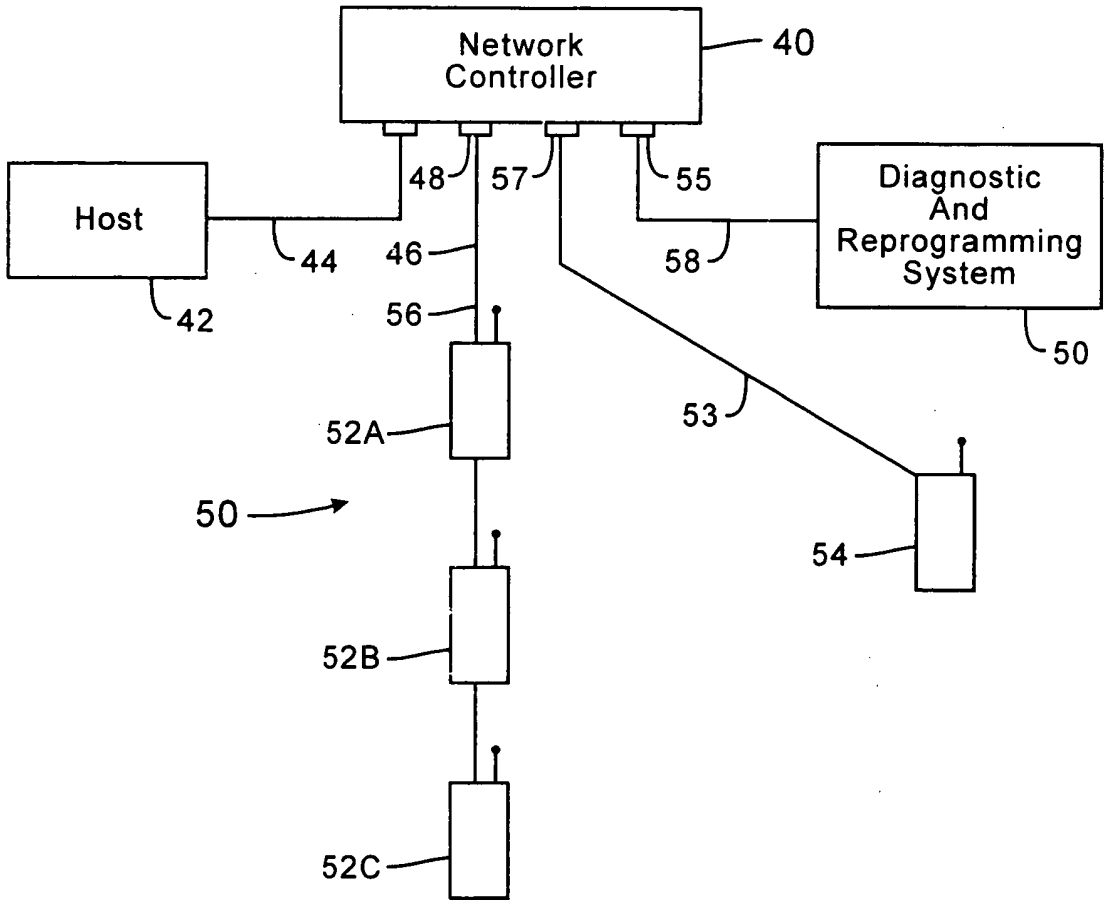

Network Controller
40
Host
42
44
48
57
55
Diagnostic And Reprogramming System
50
58
46
56
52A
50
53
54
52B
52C

Fig. 3

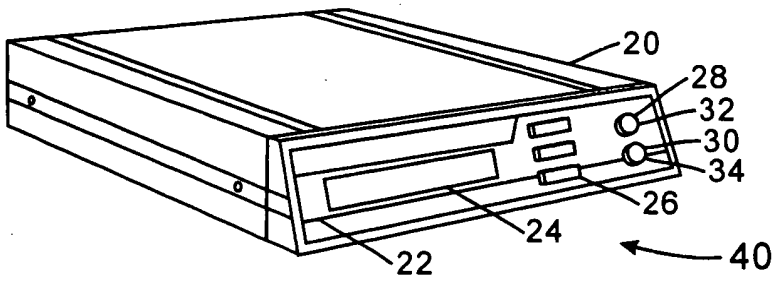

20
28
32
30
34
26
24
22
40

Fig. 2

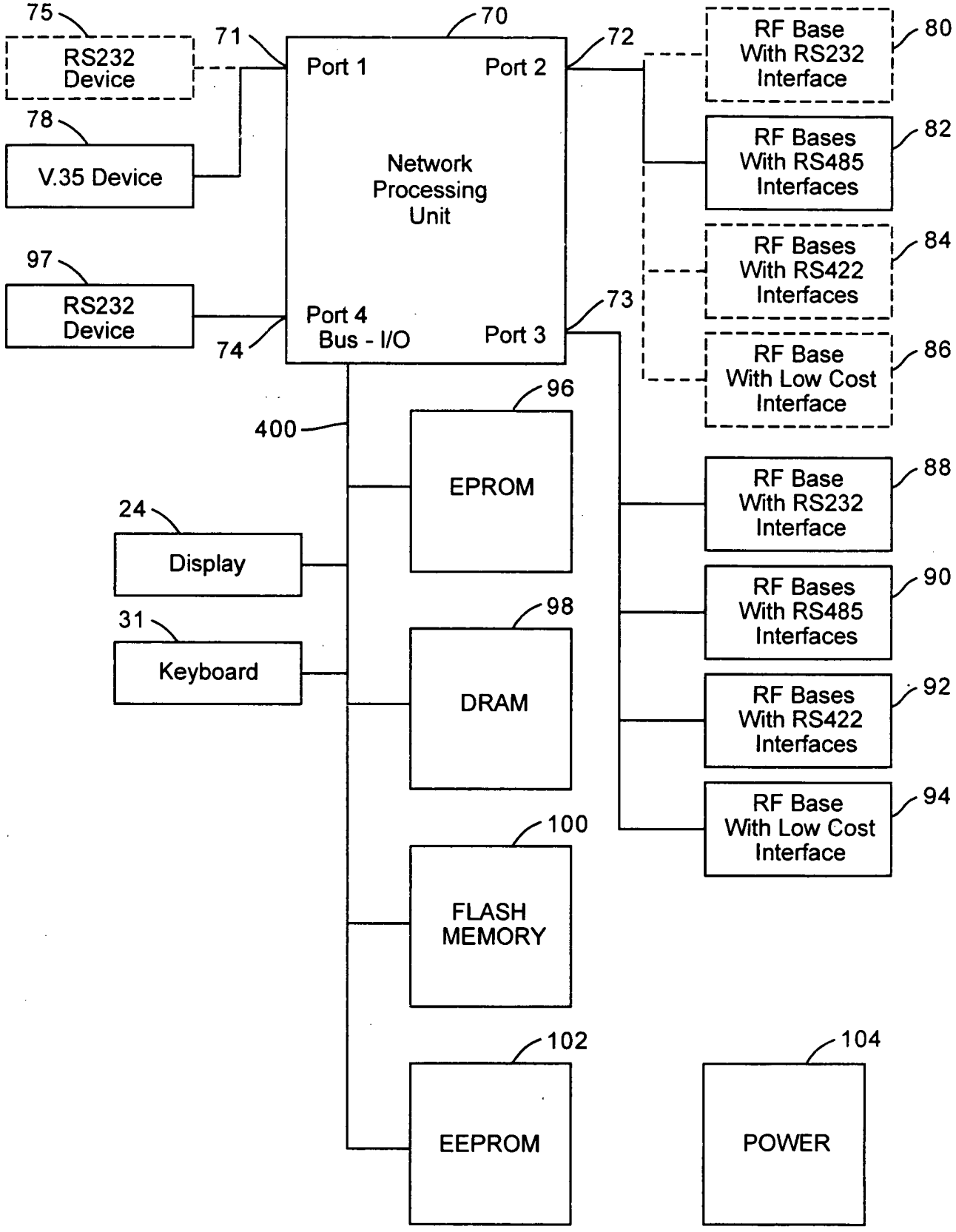

75
RS232 Device
71
70
72
Port 1
Port 2
RF Base With RS232 Interface
80
78
V.35 Device
Network Processing Unit
RF Bases With RS485 Interfaces
82
97
RS232 Device
RF Bases With RS422 Interfaces
84
73
Port 4 Bus - I/O
Port 3
74
RF Base With Low Cost Interface
86
96
400
EPROM
RF Base With RS232 Interface
88
24
Display
RF Bases With RS485 Interfaces
90
31
Keyboard
98
DRAM
RF Bases With RS422 Interfaces
92
RF Base With Low Cost Interface
94
100
FLASH MEMORY
102
104
EEPROM
POWER

Fig. 4

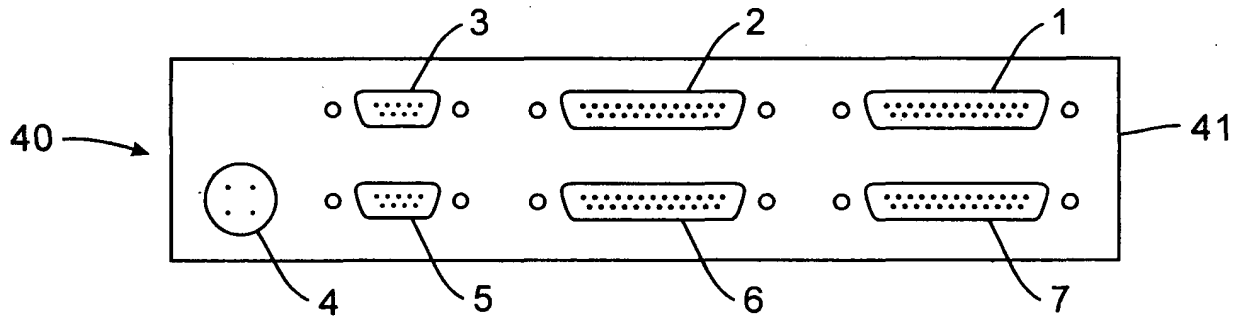

3
2
1
40
41
4
5
6
7

Fig. 5

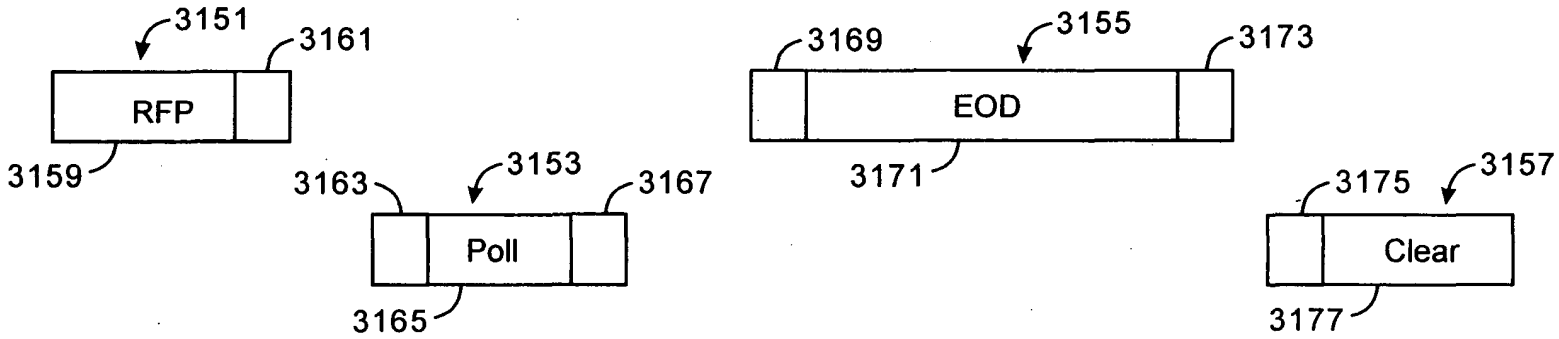

3151
3161
RFP
3159
3163
3153
3167
Poll
3165
3169
3155
3173
EOD
3171
3175
3157
Clear
3177

Fig.20

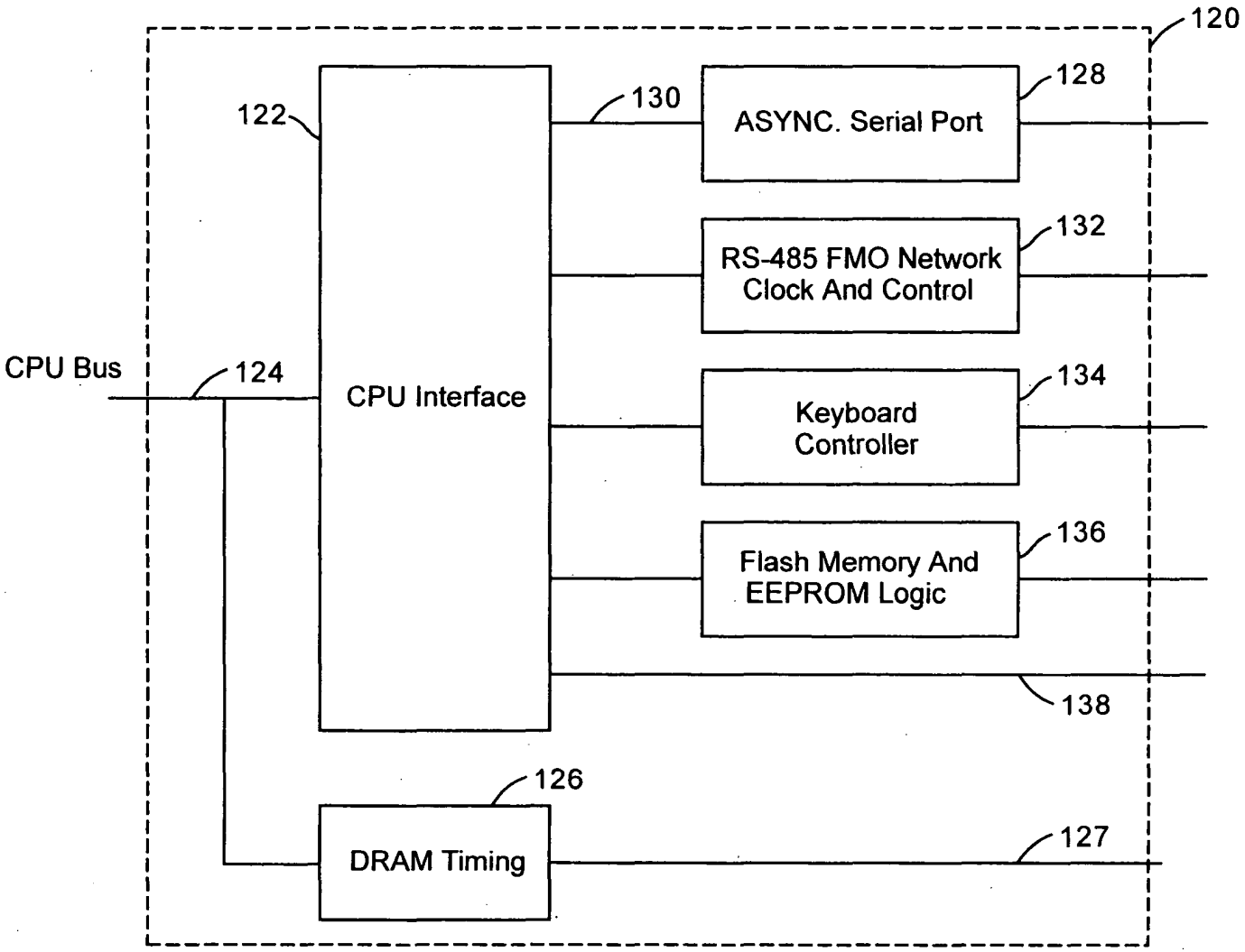

120
122
130
128
ASYNC. Serial Port
132
RS-485 FMO Network
Clock And Control
CPU Bus
124
CPU Interface
134
Keyboard
Controller
136
Flash Memory And
EEPROM Logic
138
126
DRAM Timing
127

Fig.6

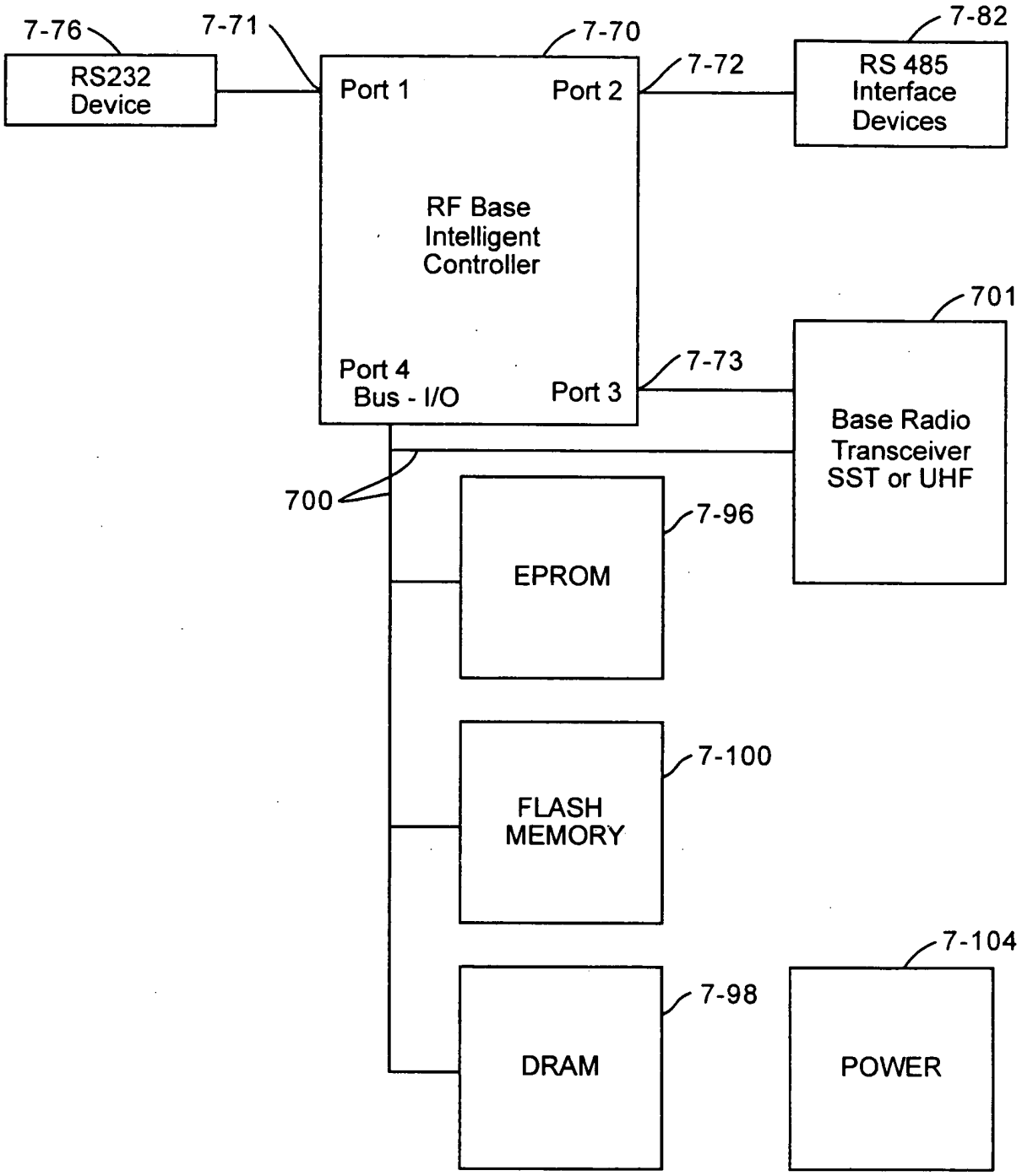

7-76
RS232 Device
7-71
7-70
Port 1
Port 2
7-72
7-82
RS 485 Interface Devices
RF Base Intelligent Controller
701
Port 4 Bus - I/O
Port 3
7-73
Base Radio Transceiver SST or UHF
700
EPROM
7-96
FLASH MEMORY
7-100
DRAM
7-98
POWER
7-104

Fig. 7

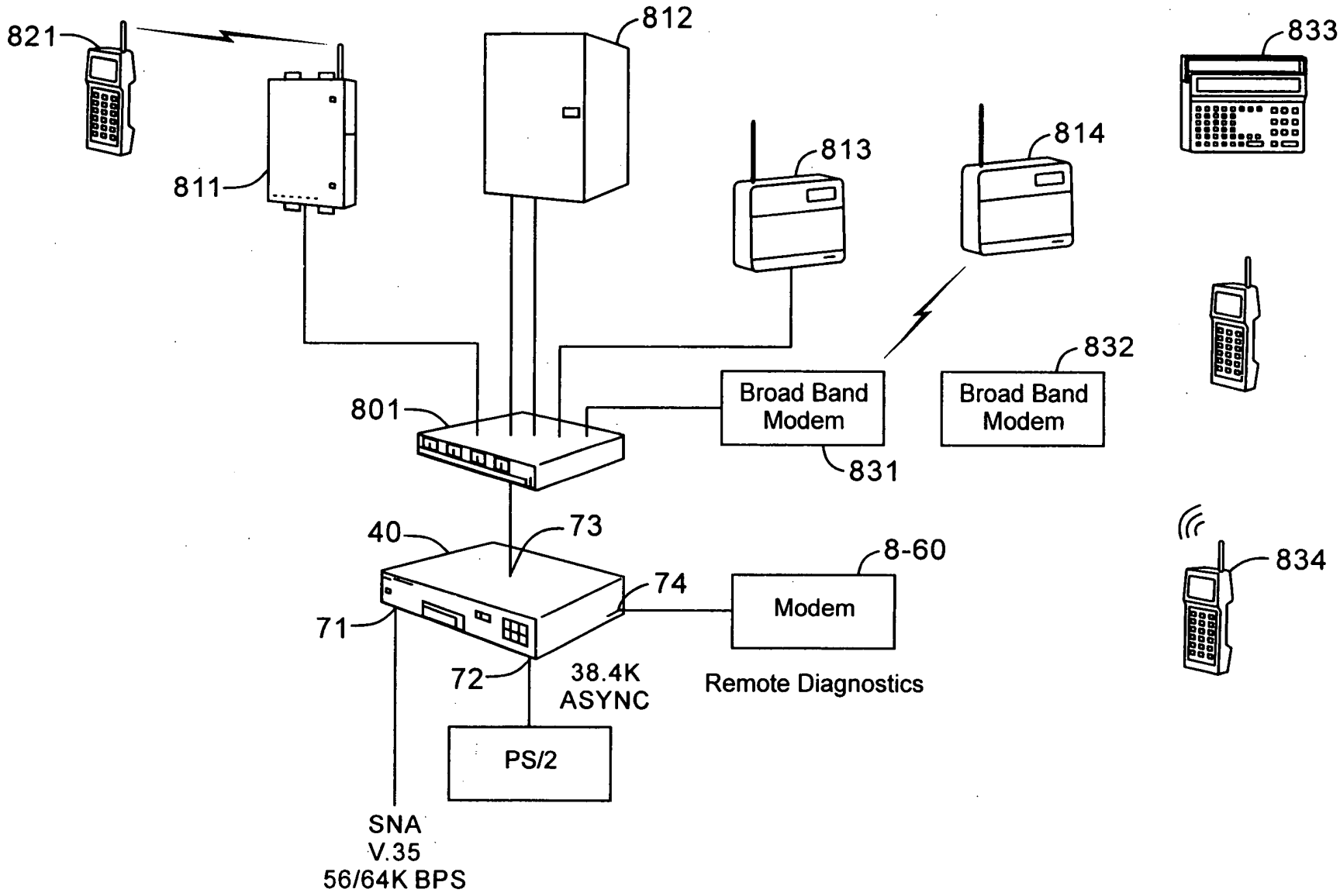

821
812
833
811
813
814
832
Broad Band Modem
Broad Band Modem
801
831
40
73
8-60
74
Modem
71
72
38.4K ASYNC
Remote Diagnostics
834
PS/2
SNA V.35 56/64K BPS

Fig.8

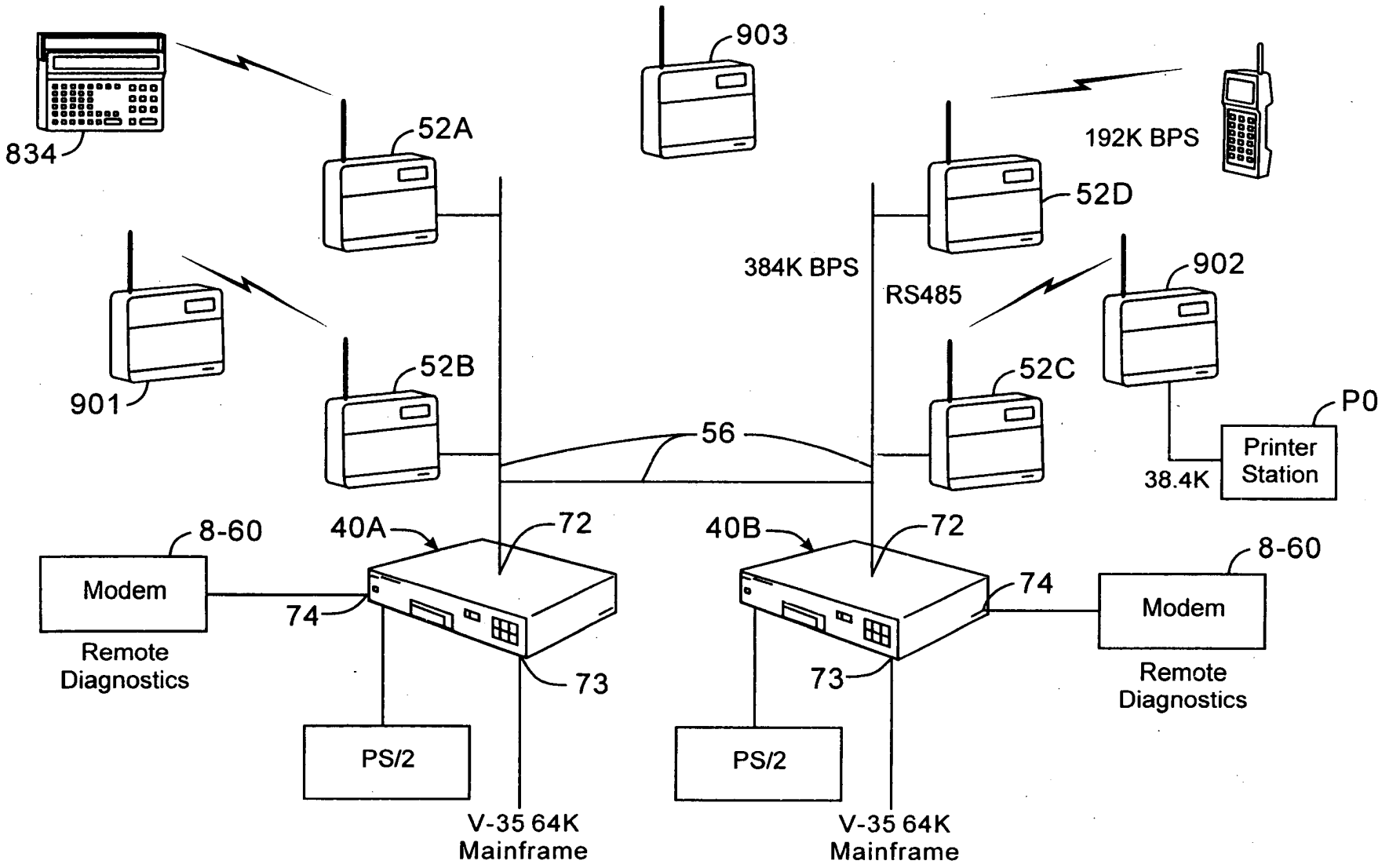

834
52A
903
192K BPS
52D
384K BPS
RS485
902
901
52B
52C
56
P0
Printer Station
38.4K
8-60
40A
72
40B
72
8-60
Modem
74
74
Modem
Remote Diagnostics
73
73
Remote Diagnostics
PS/2
PS/2
V-35 64K Mainframe
V-35 64K Mainframe

Fig.9

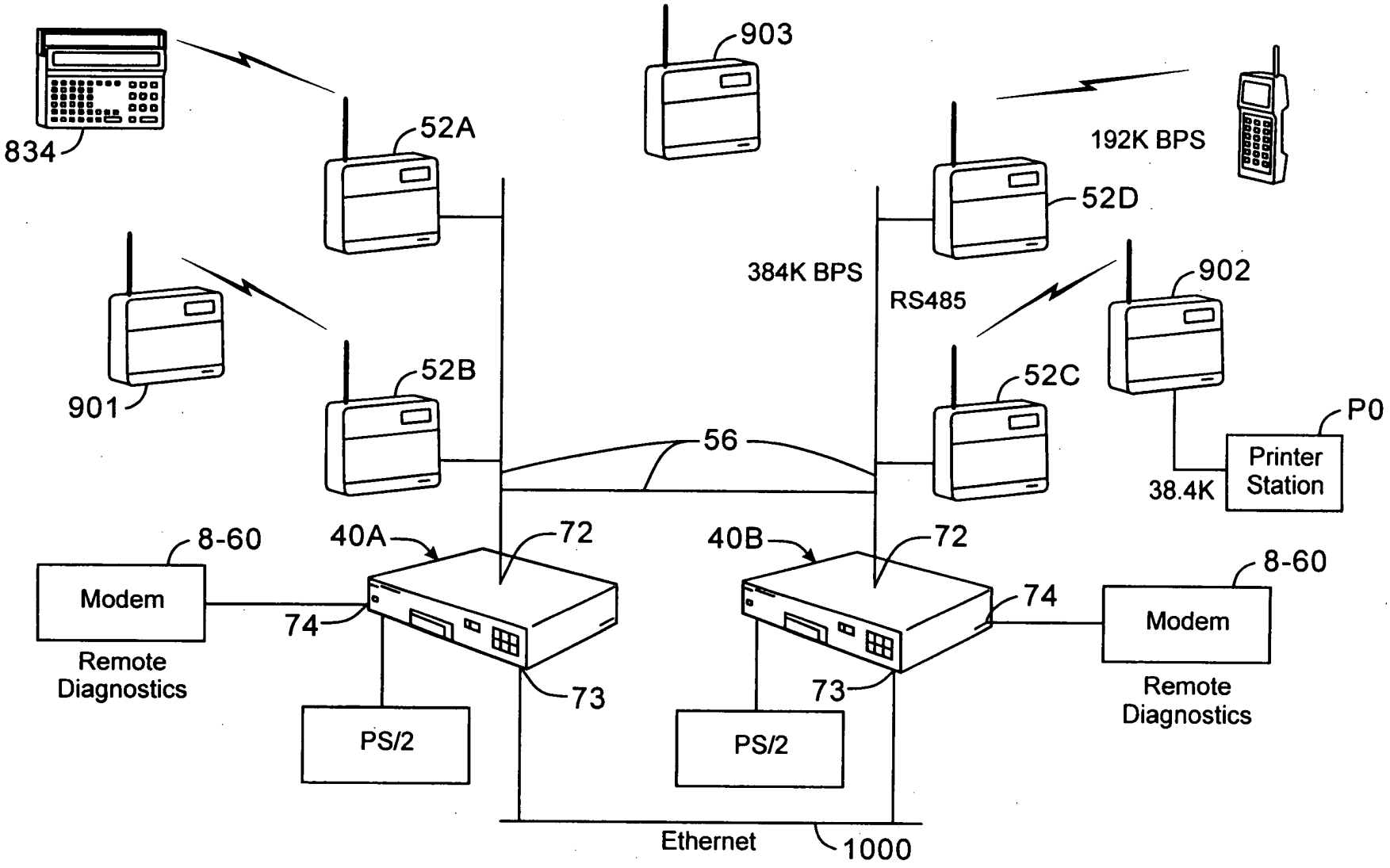

834
52A
903
192K BPS
52D
384K BPS
RS485
902
901
52B
52C
56
P0
Printer Station
38.4K
8-60
40A
72
40B
72
8-60
Modem
74
74
Modem
Remote Diagnostics
73
73
Remote Diagnostics
PS/2
PS/2
Ethernet
1000

Fig.10

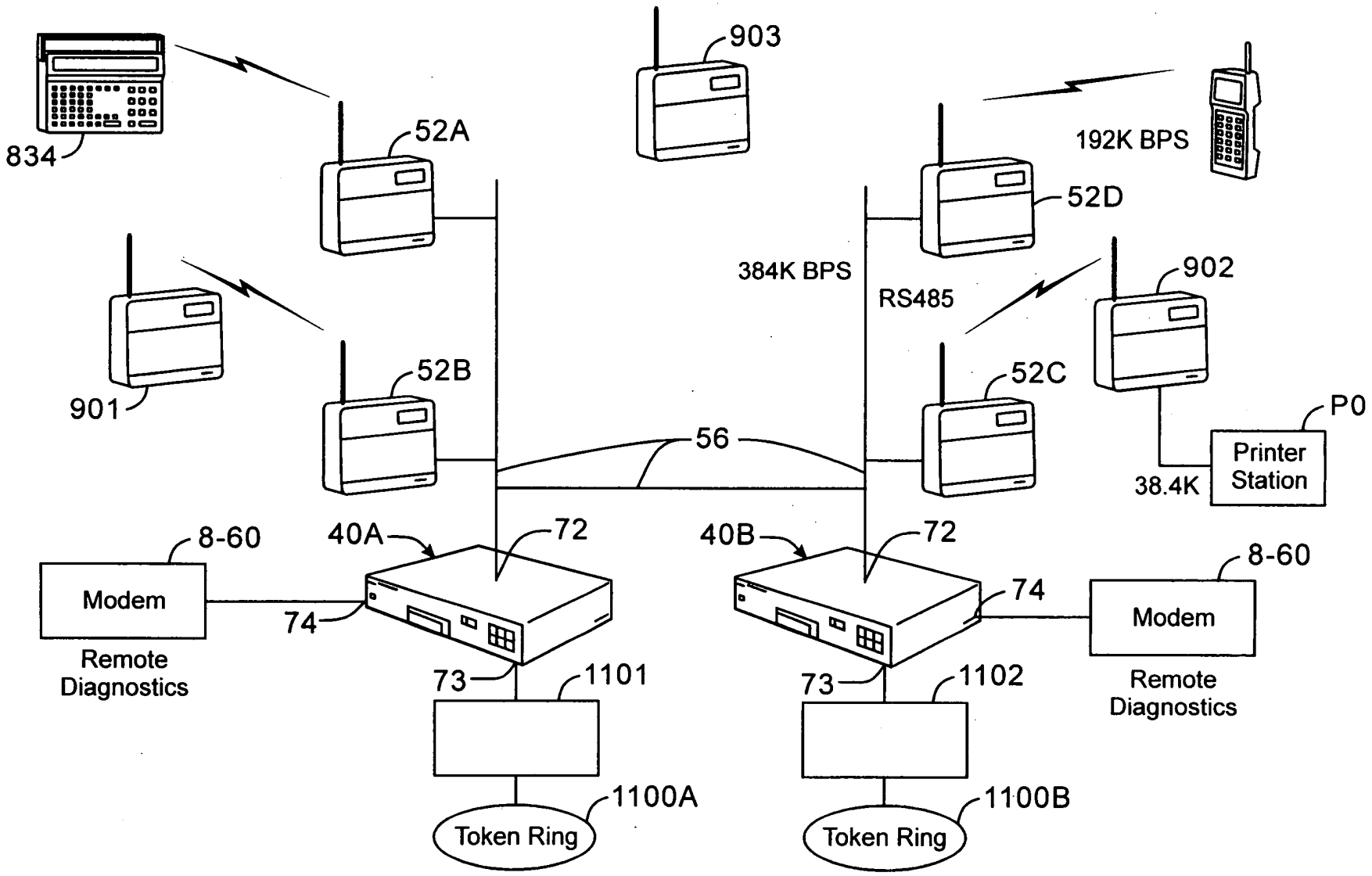

834
52A
903
192K BPS
52D
384K BPS
RS485
902
901
52B
52C
P0
56
Printer Station
38.4K
8-60
40A
72
40B
72
8-60
Modem
74
74
Modem
Remote Diagnostics
73
1101
73
1102
Remote Diagnostics
1100A
1100B
Token Ring
Token Ring

Fig.11

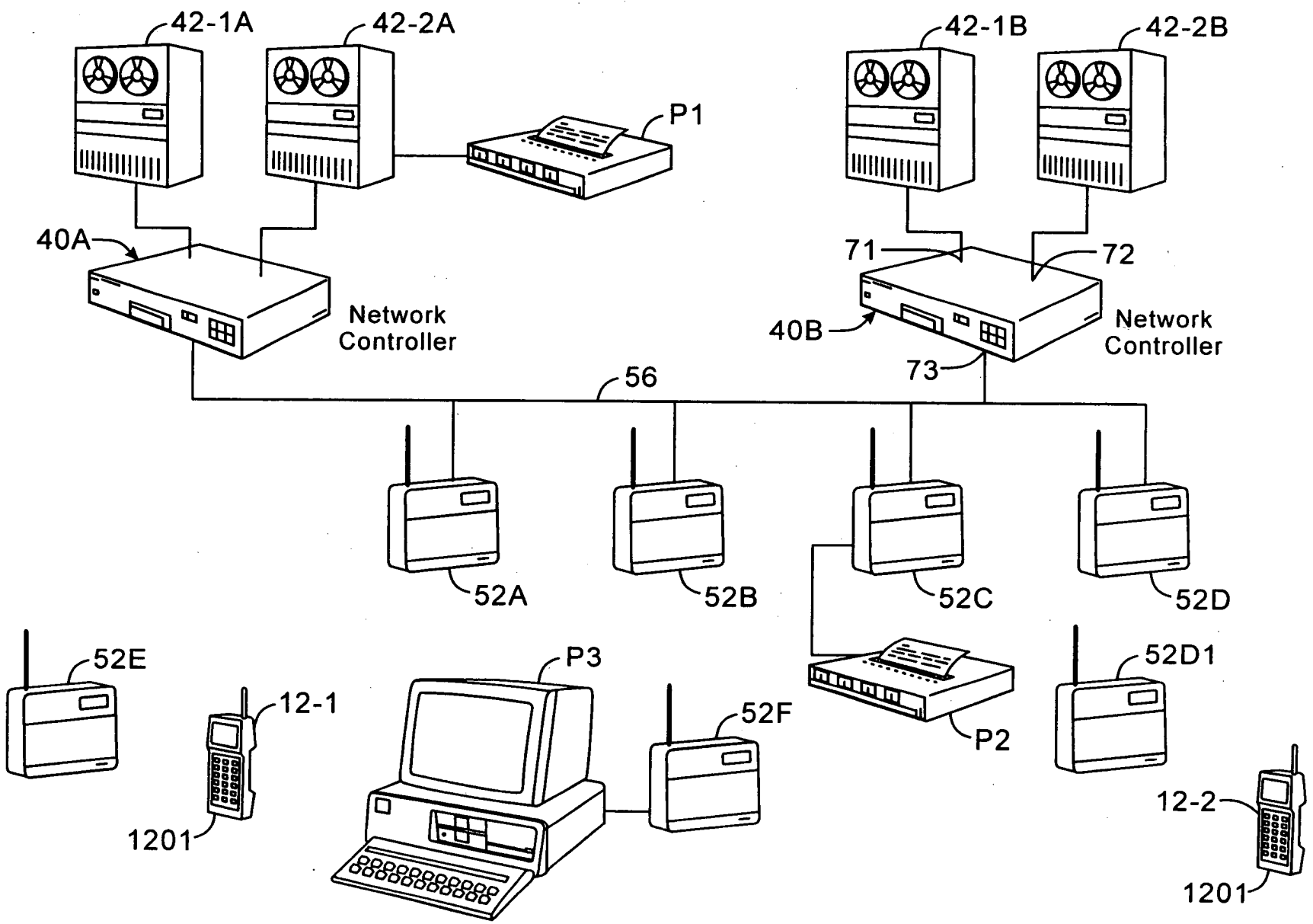

42-1A
42-2A
P1
42-1B
42-2B
40A
Network Controller
71
72
40B
Network Controller
73
56
52A
52B
52C
52D
52E
12-1
1201
P3
52F
P2
52D1
12-2
1201

Fig.12

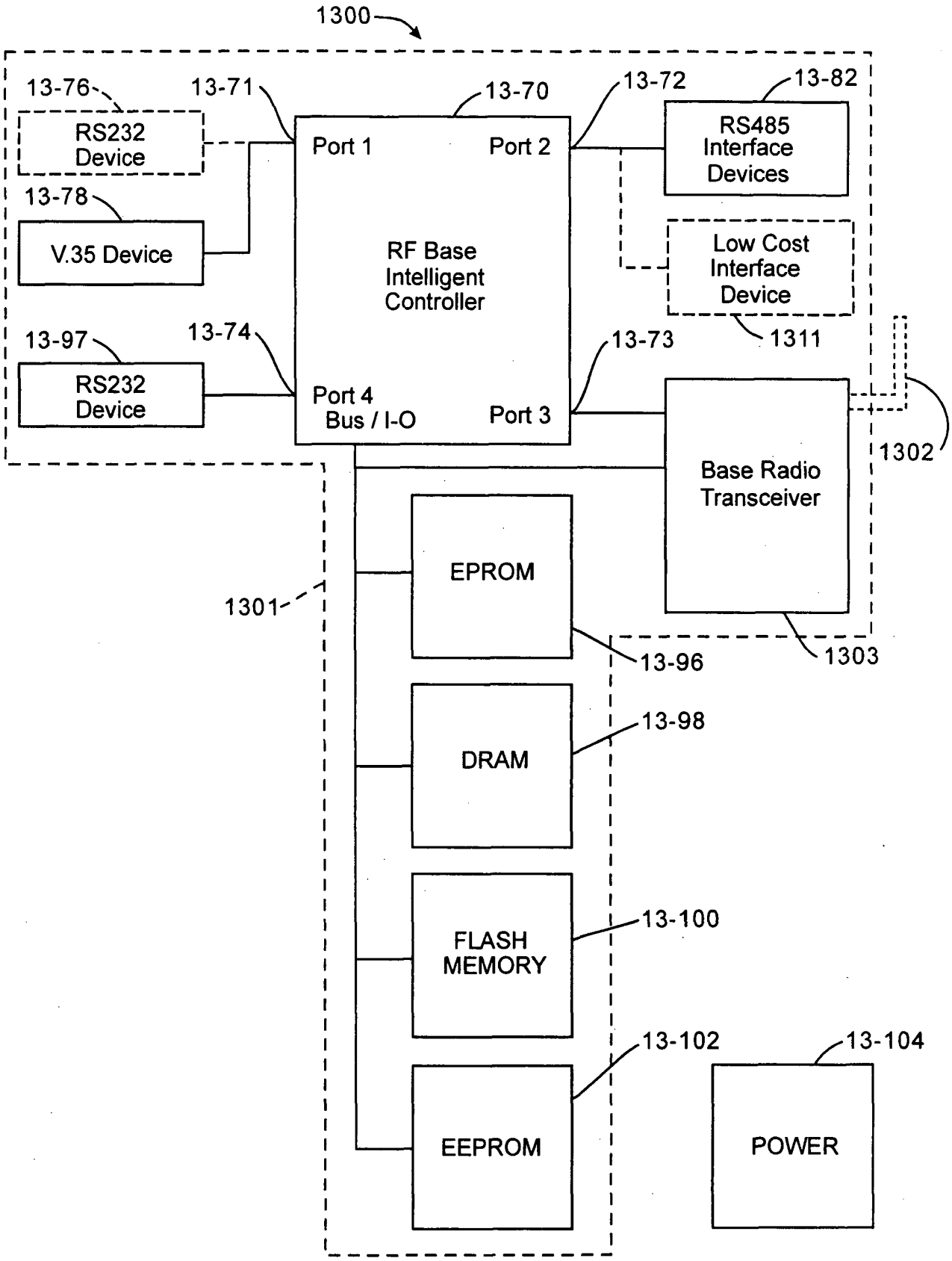

1300
13-76
RS232 Device
13-71
13-70
13-72
13-82
RS485 Interface Devices
Port 1
Port 2
13-78
V.35 Device
RF Base Intelligent Controller
Low Cost Interface Device
1311
13-97
RS232 Device
13-74
13-73
Port 4 Bus / I-O
Port 3
1302
Base Radio Transceiver
1301
EPROM
13-96
1303
DRAM
13-98
FLASH MEMORY
13-100
13-102
13-104
EEPROM
POWER

Fig. 13

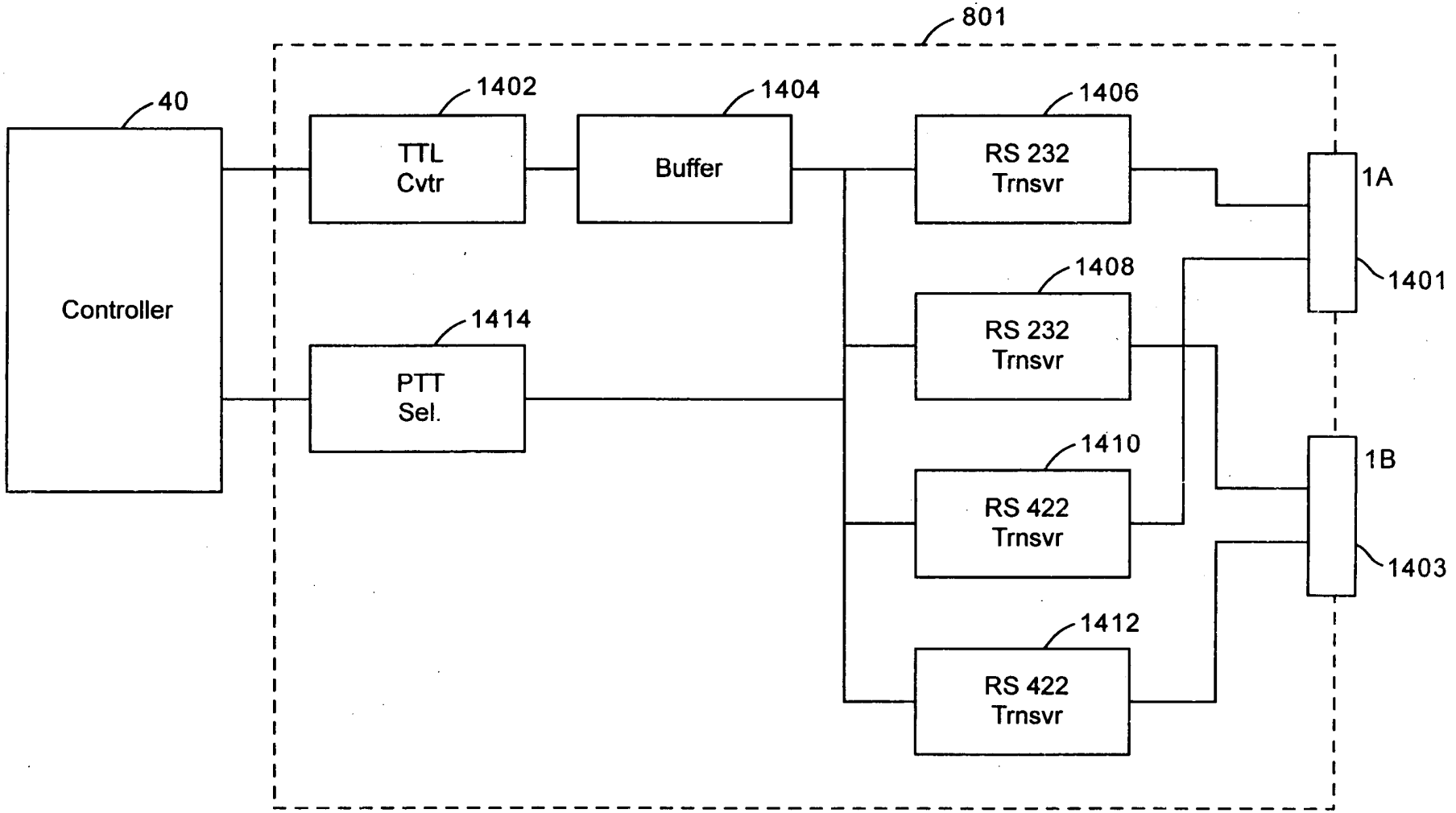

801
40
Controller
1402
TTL
Cvtr
1404
Buffer
1406
RS 232
Trnsvr
1A
1401
1408
RS 232
Trnsvr
1414
PTT
Sel.
1410
RS 422
Trnsvr
1B
1403
1412
RS 422
Trnsvr

Fig.14

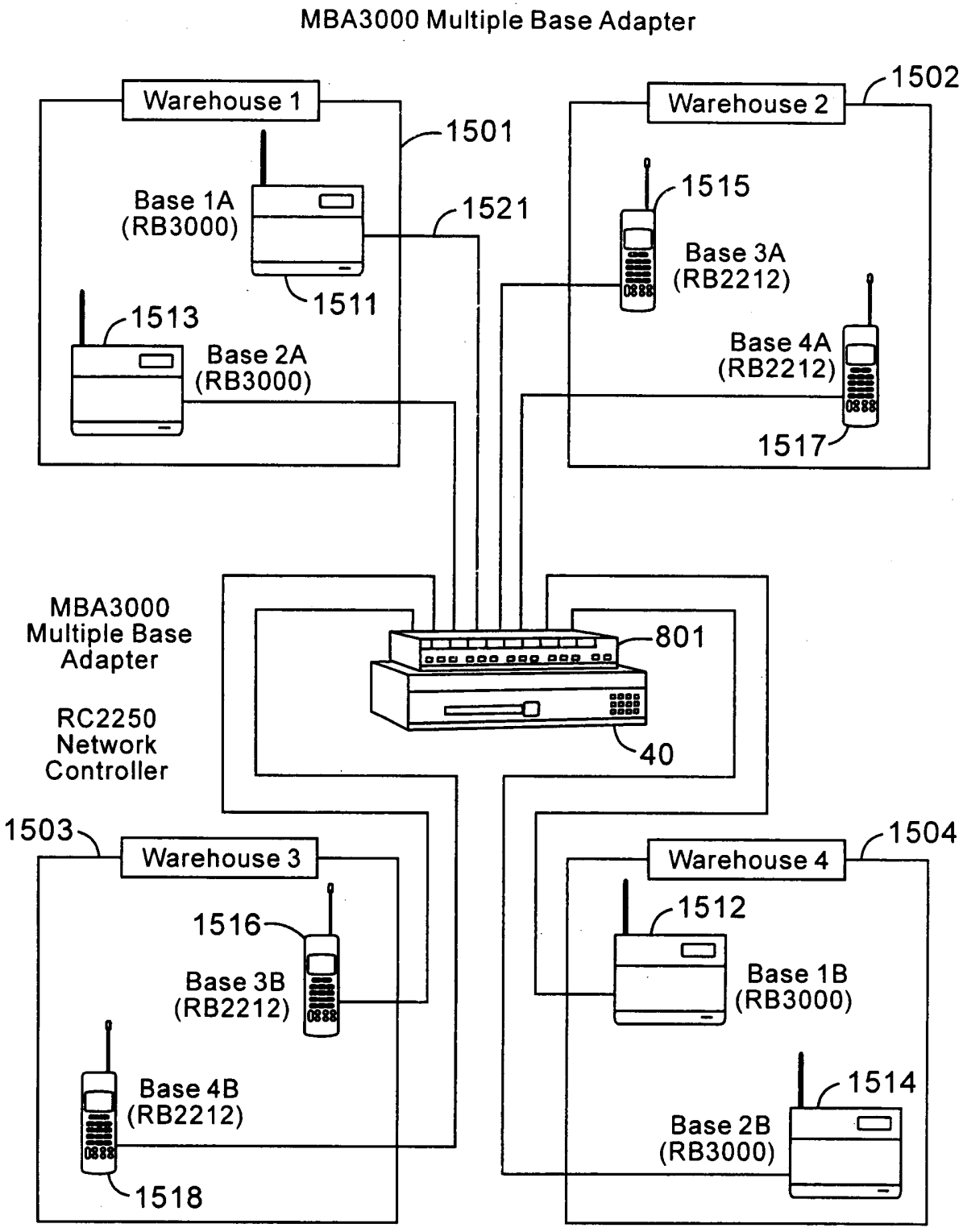

MBA3000 Multiple Base Adapter
Warehouse 1
1501
Base 1A
(RB3000)
1521
1511
1513
Base 2A
(RB3000)
Warehouse 2
1502
1515
Base 3A
(RB2212)
Base 4A
(RB2212)
1517
MBA3000
Multiple Base
Adapter
RC2250
Network
Controller
801
40
1503
Warehouse 3
1516
Base 3B
(RB2212)
Base 4B
(RB2212)
1518
Warehouse 4
1504
1512
Base 1B
(RB3000)
1514
Base 2B
(RB3000)

Fig. 15

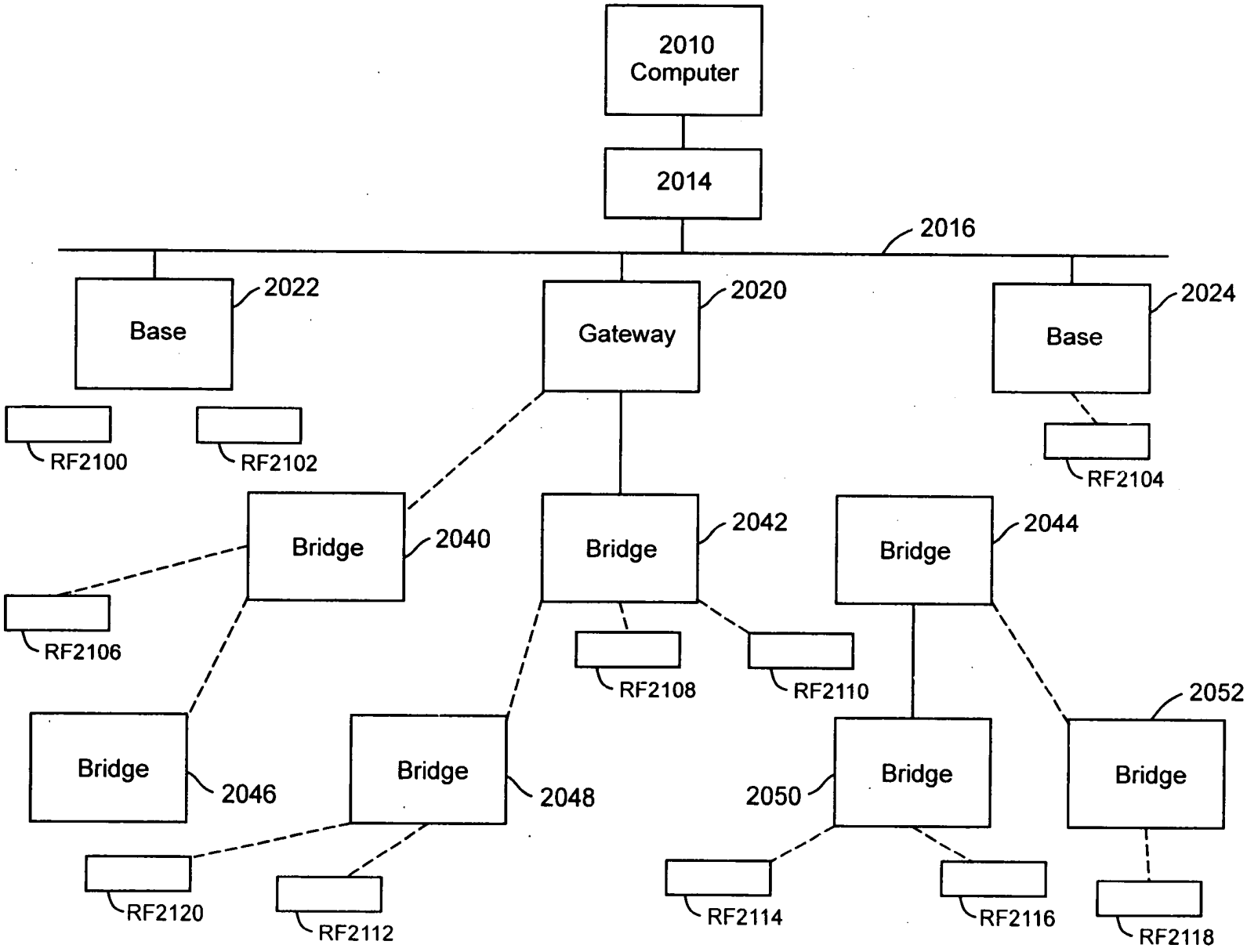

2010
Computer
2014
2016
Base
2022
Gateway
2020
Base
2024
RF2100
RF2102
RF2104
Bridge
2040
Bridge
2042
Bridge
2044
RF2106
RF2108
RF2110
Bridge
2046
Bridge
2048
Bridge
2050
Bridge
2052
RF2120
RF2112
RF2114
RF2116
RF2118

Fig.16

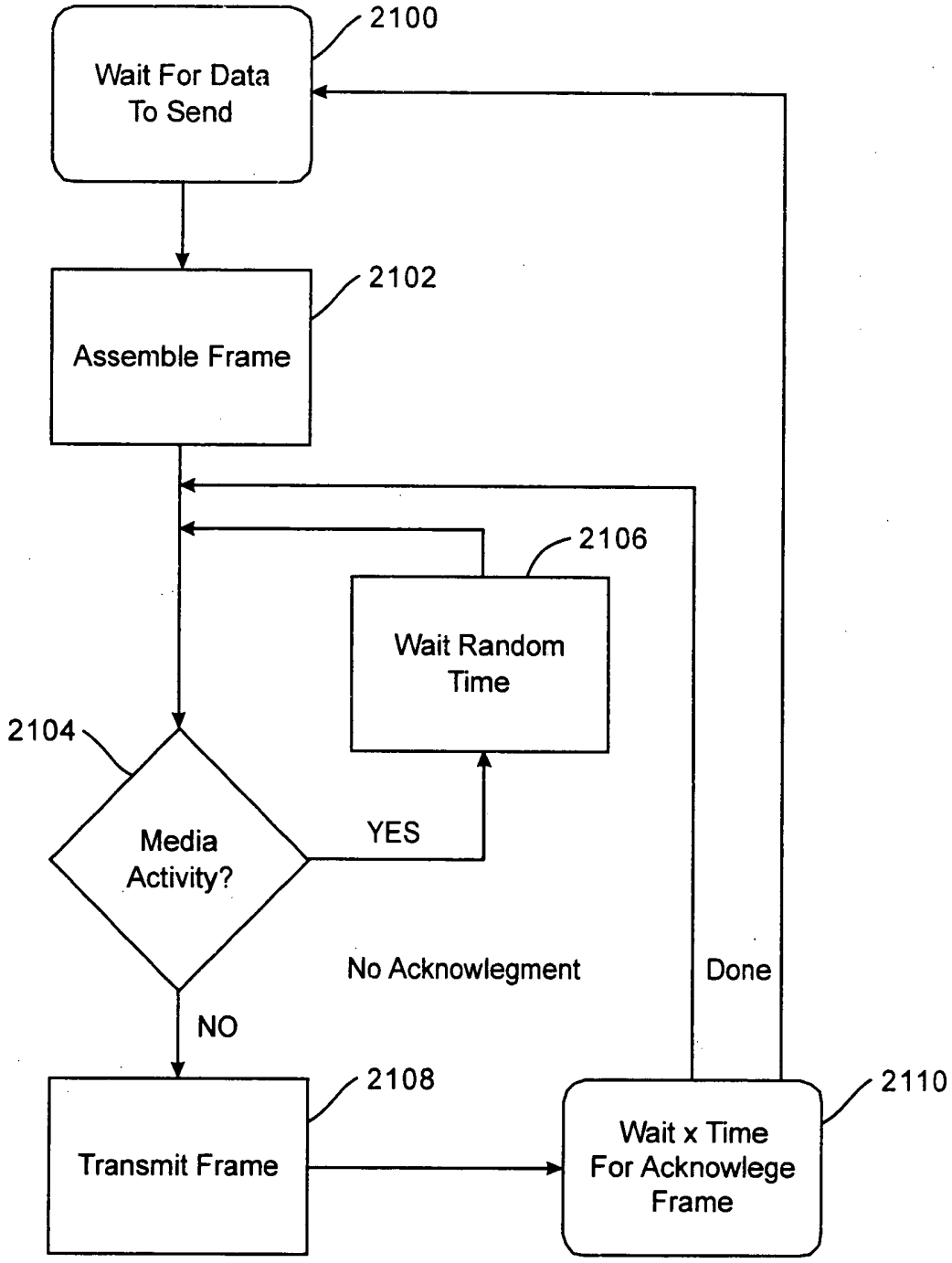

2100
Wait For Data To Send
2102
Assemble Frame
2106
Wait Random Time
2104
Media Activity?
YES
No Acknowlegment
Done
NO
2108
Transmit Frame
2110
Wait x Time For Acknowlege Frame

Fig. 17

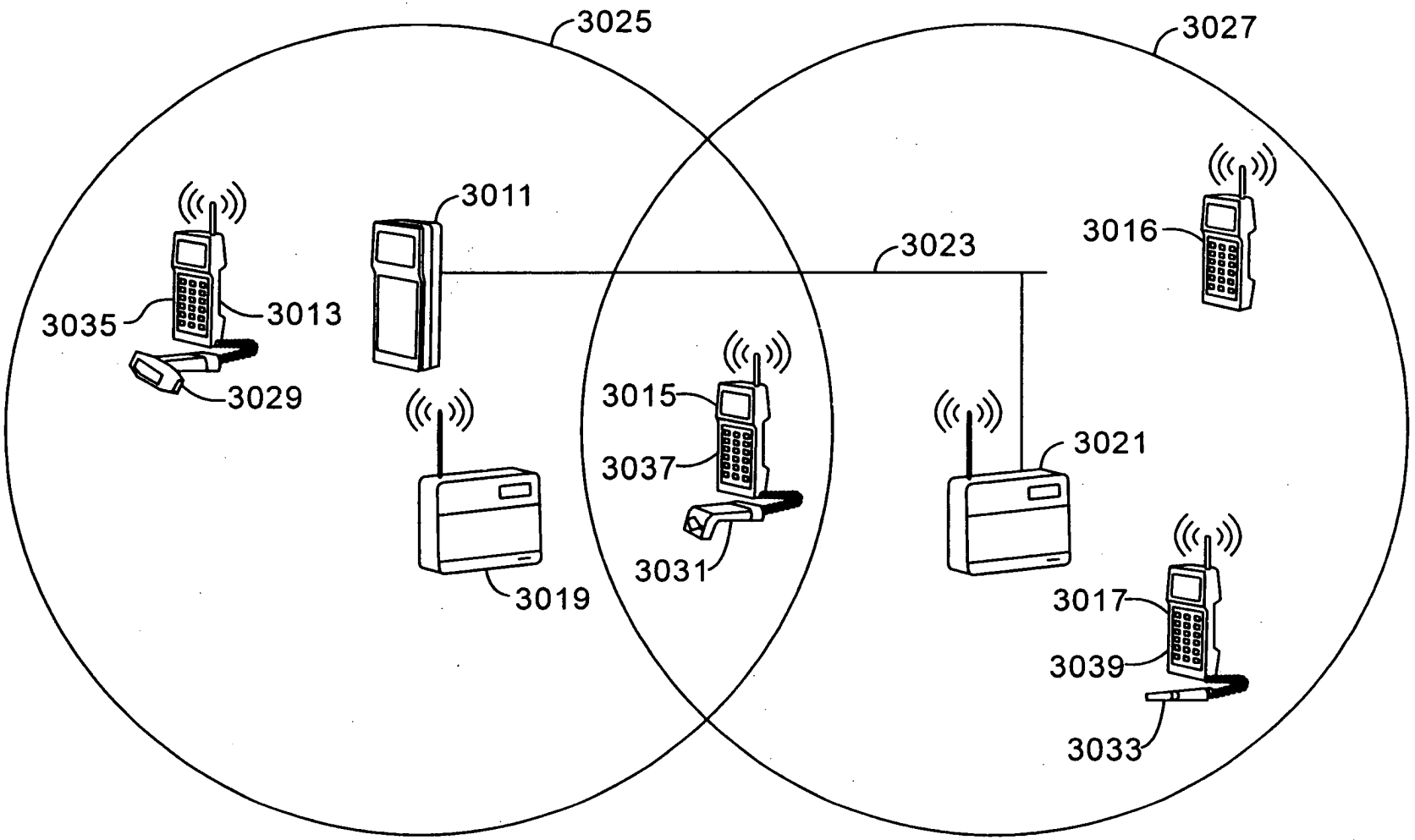

3025
3027
3011
3023
3016
3035
3013
3029
3015
3037
3031
3021
3019
3017
3039
3033

Fig.18

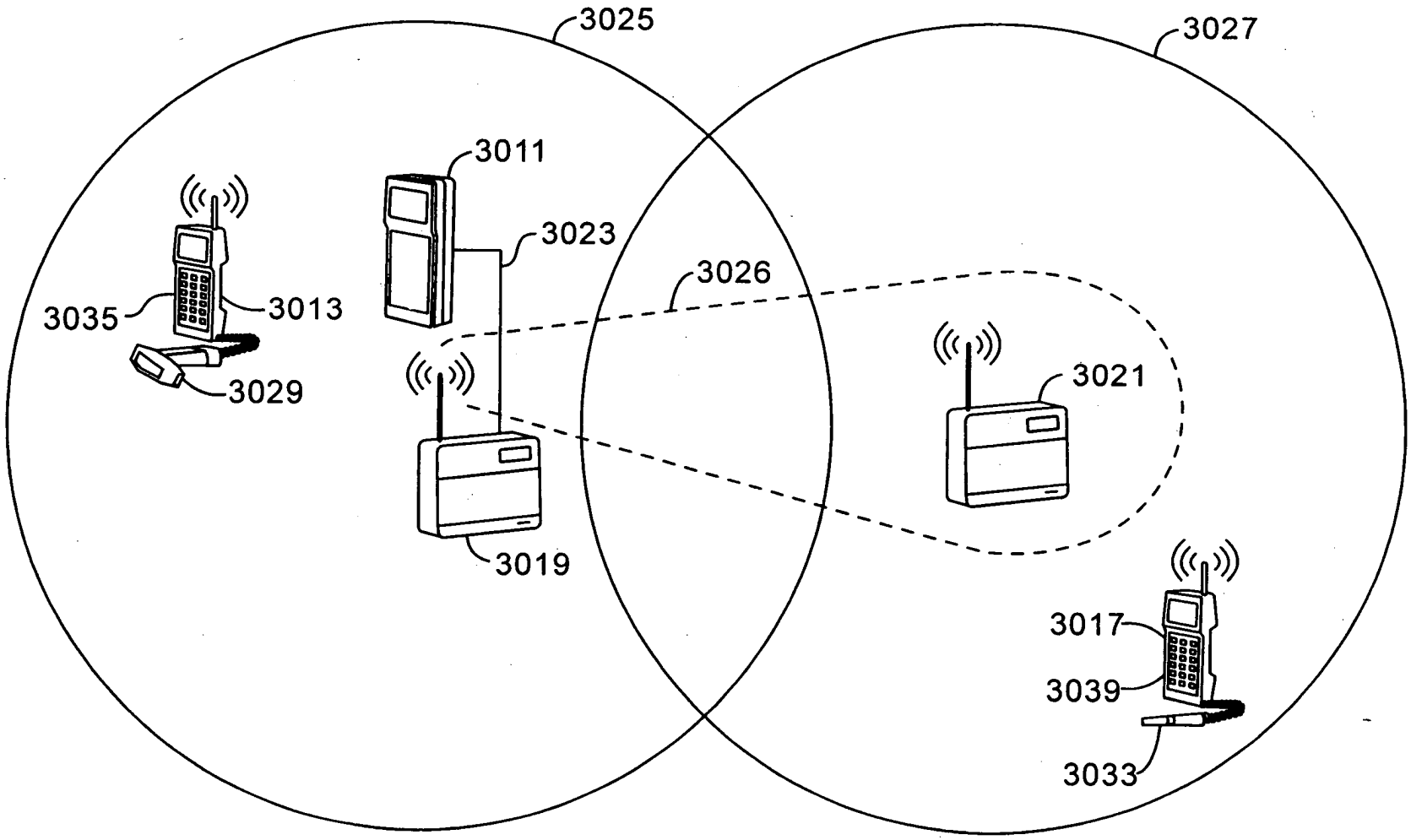

3025
3027
3011
3023
3026
3035
3013
3029
3021
3019
3017
3039
3033

Fig.18A

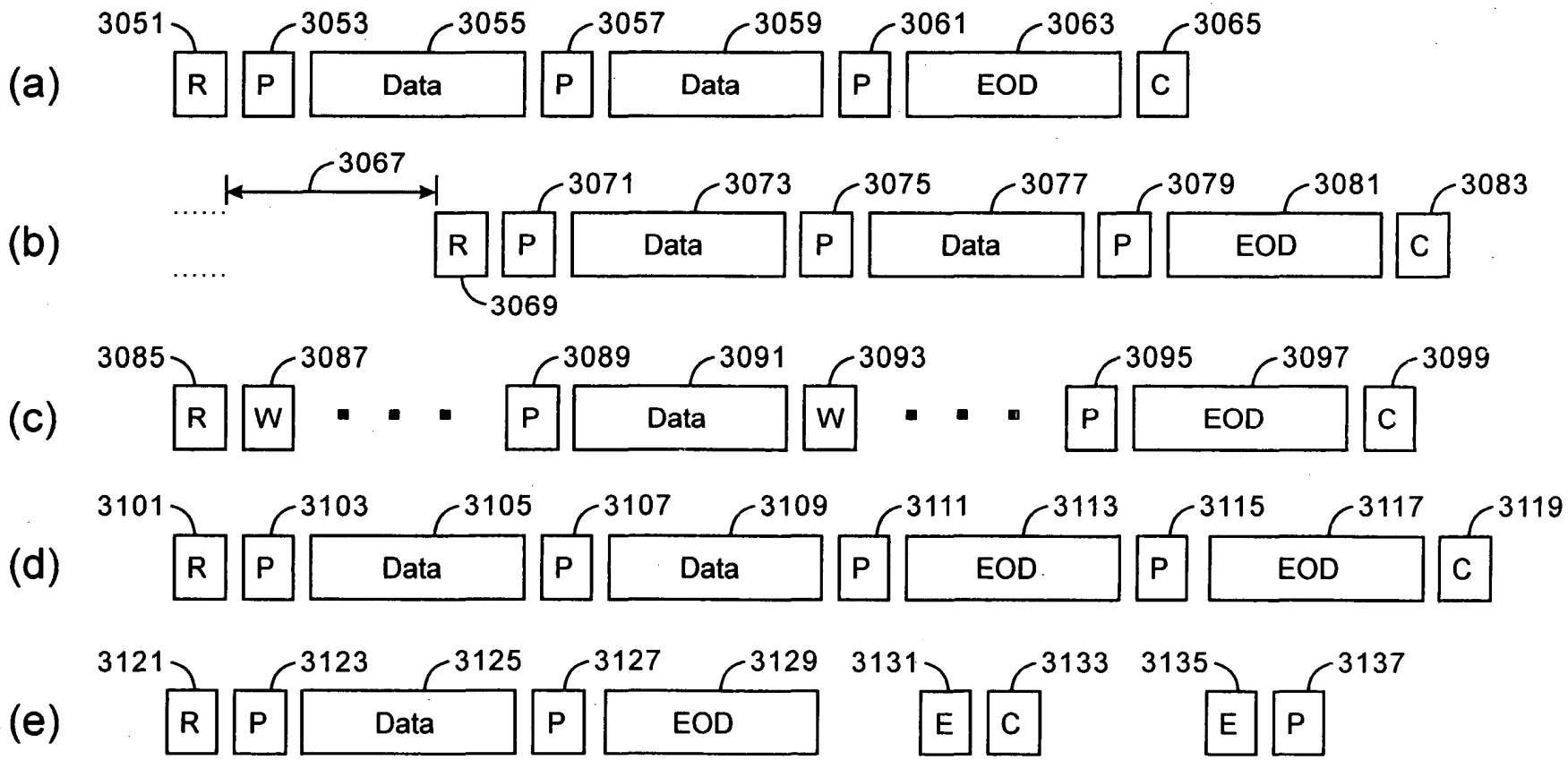

(a)
3051
R
3053
P
3055
Data
3057
P
3059
Data
3061
P
3063
EOD
3065
C
(b)
3067
3069
R
3071
P
3073
Data
3075
P
3077
Data
3079
P
3081
EOD
3083
C
(c)
3085
R
3087
W
3089
P
3091
Data
3093
W
3095
P
3097
EOD
3099
C
(d)
3101
R
3103
P
3105
Data
3107
P
3109
Data
3111
P
3113
EOD
3115
P
3117
EOD
3119
C
(e)
3121
R
3123
P
3125
Data
3127
P
3129
EOD
3131
E
3133
C
3135
E
3137
P

Fig.19

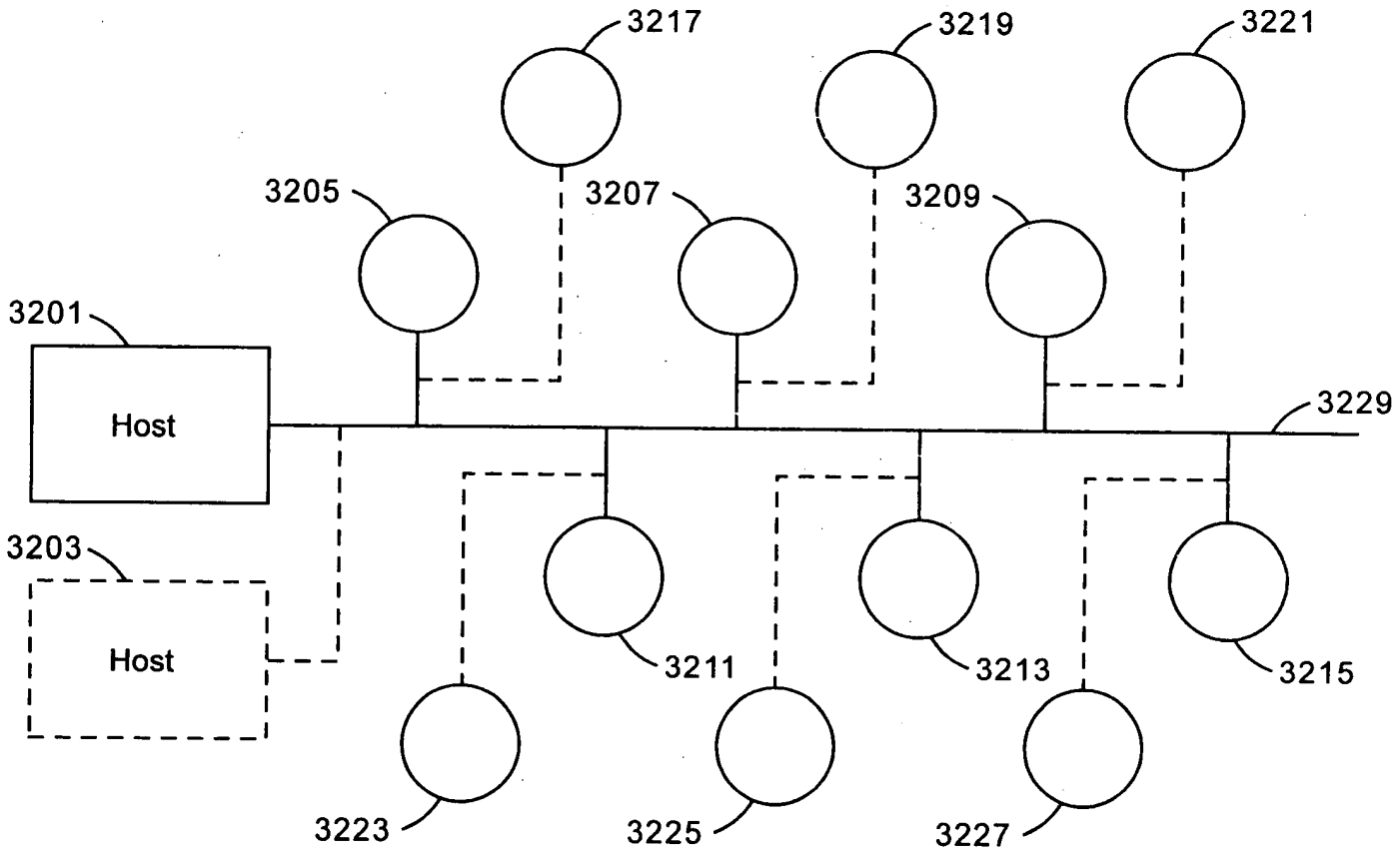

3217
3219
3221
3205
3207
3209
3201
Host
3229
3203
Host
3211
3213
3215
3223
3225
3227

Fig.21

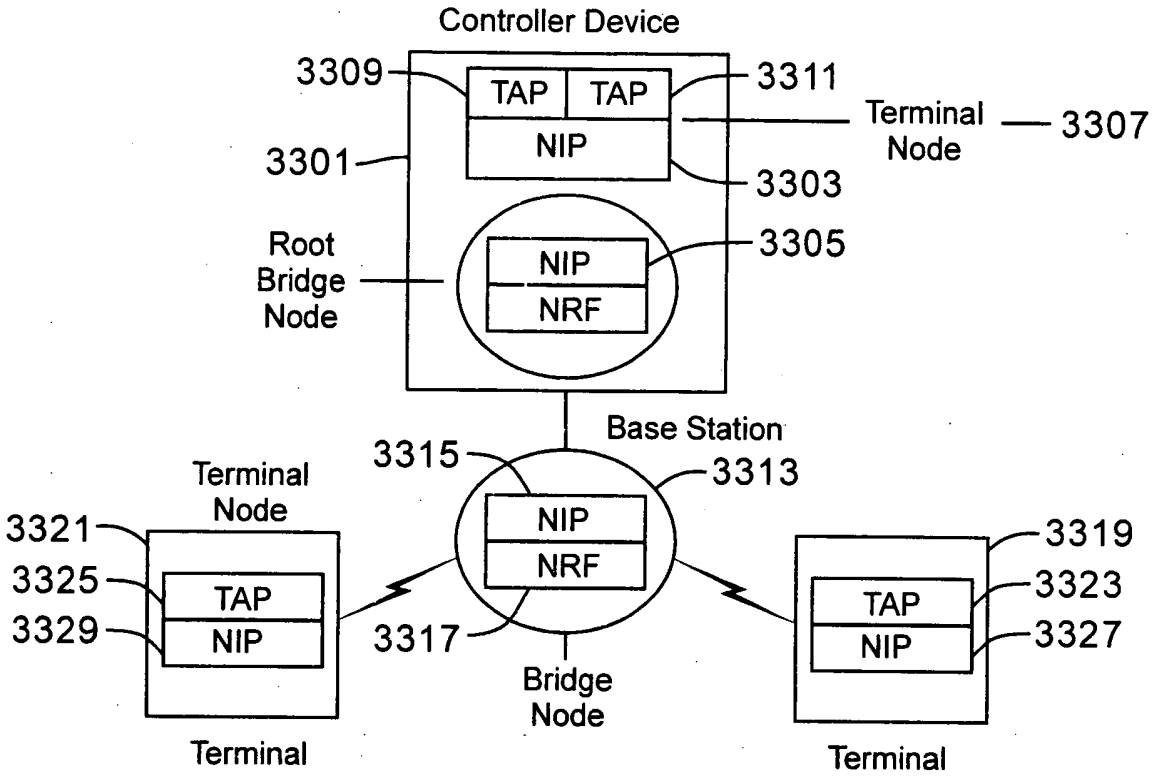

Controller Device
3309
TAP
TAP
3311
Terminal Node
3307
NIP
3301
3303
Root Bridge Node
NIP
NRF
3305
Base Station
3315
3313
Terminal Node
NIP
NRF
3321
3325
3329
TAP
NIP
3317
3319
3323
3327
TAP
NIP
Bridge Node
Terminal
Terminal

Fig. 22

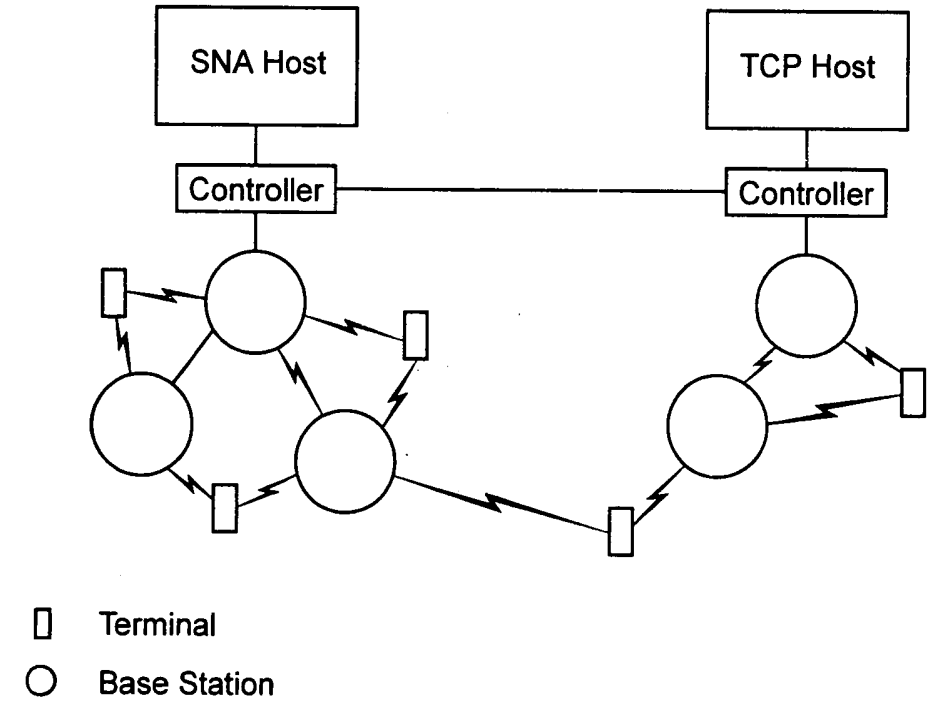

SNA Host
TCP Host
Controller
Controller
Terminal
Base Station

Fig. 23

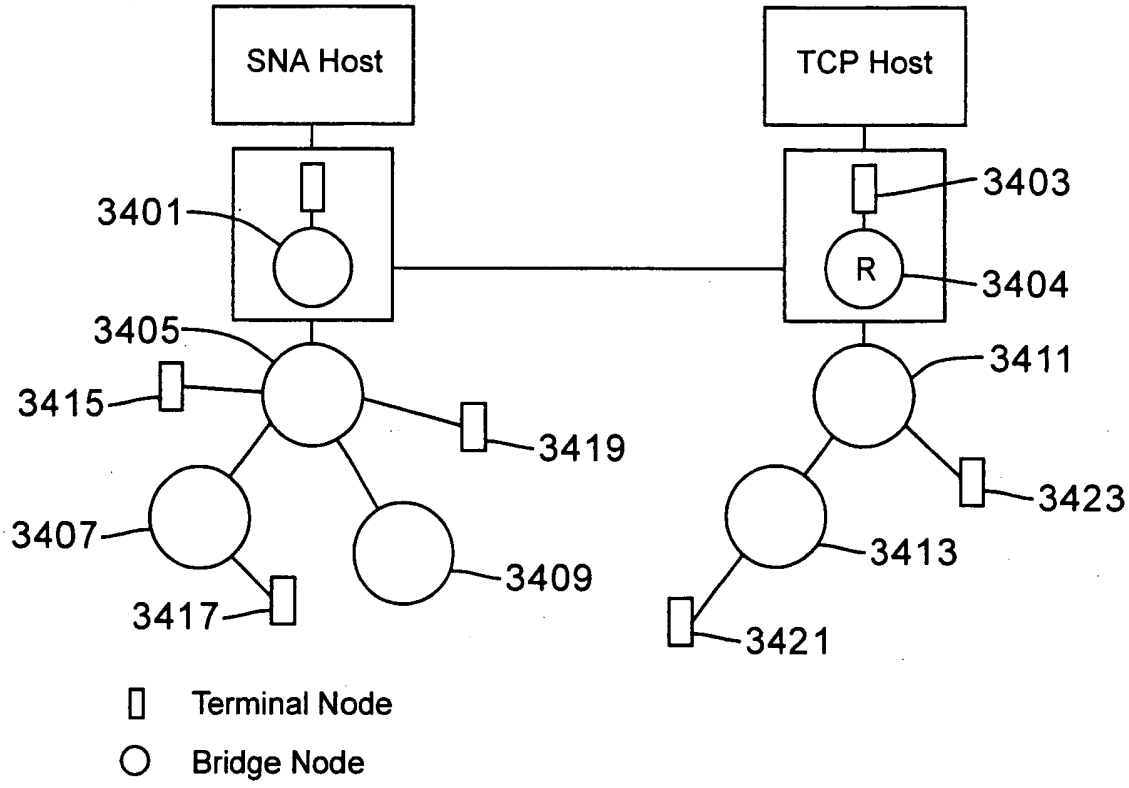

SNA Host
TCP Host
3401
3403
R
3404
3405
3411
3415
3419
3423
3407
3413
3409
3417
3421
Terminal Node
Bridge Node

Fig. 24

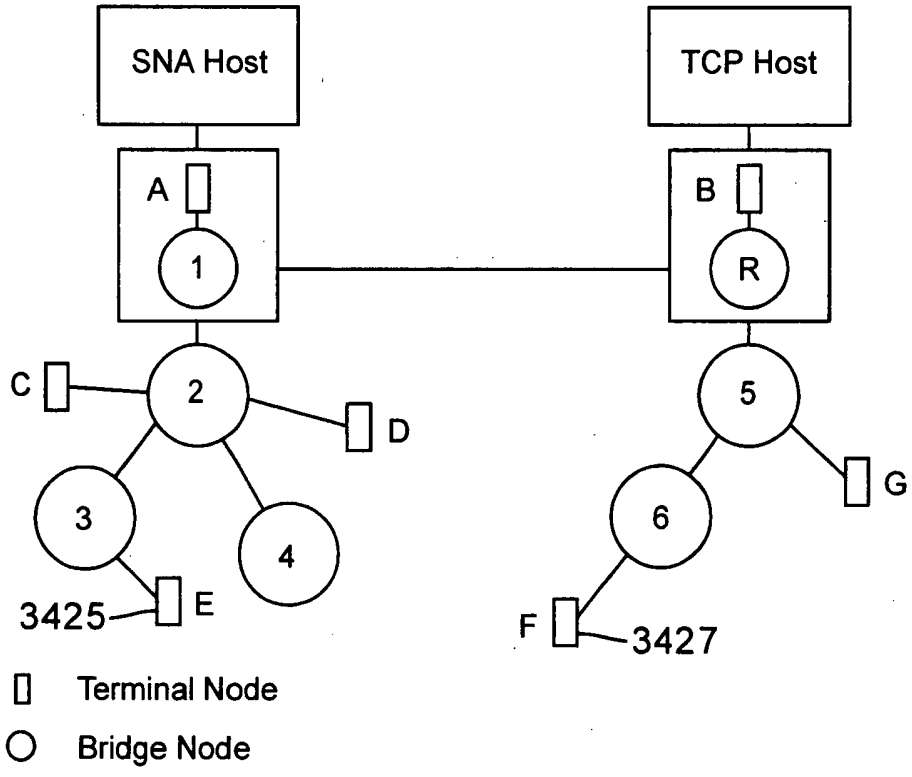

SNA Host
TCP Host
A
B
1
R
C
2
5
D
G
3
6
4
3425
E
F
3427
Terminal Node
Bridge Node

Fig. 25

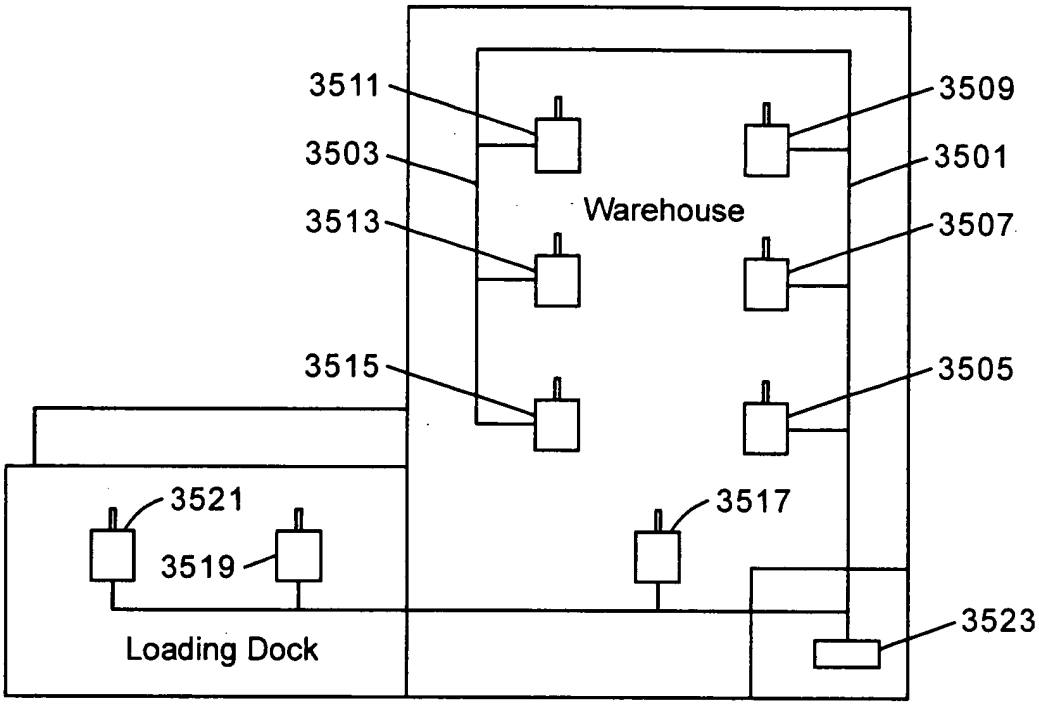

3511
3509
3503
3501
Warehouse
3513
3507
3515
3505
3521
3517
3519
3523
Loading Dock

Fig. 26

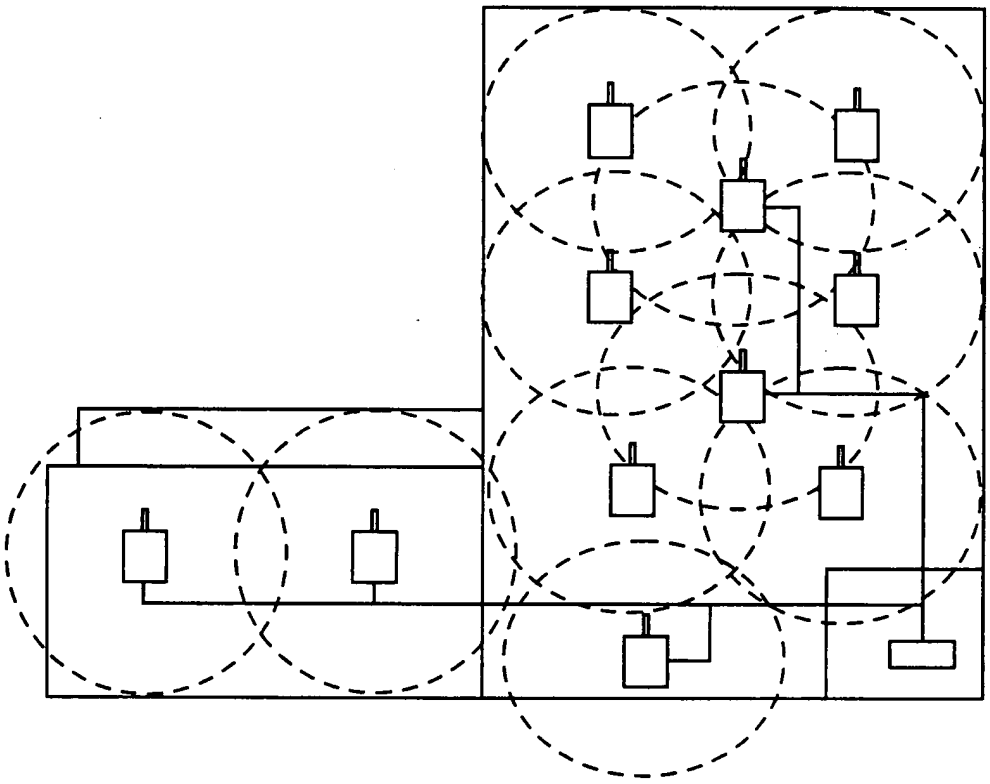


Fig. 27

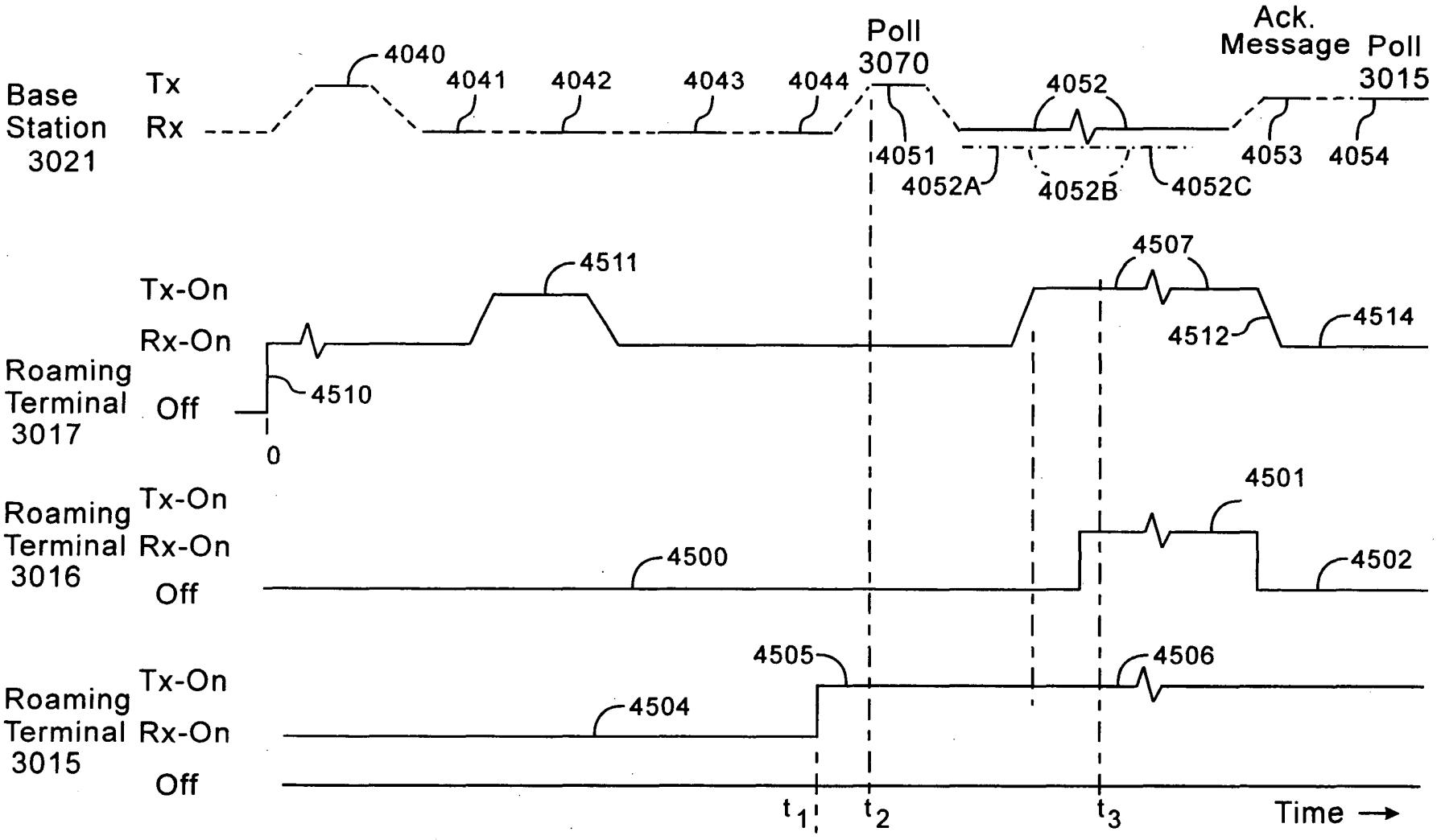
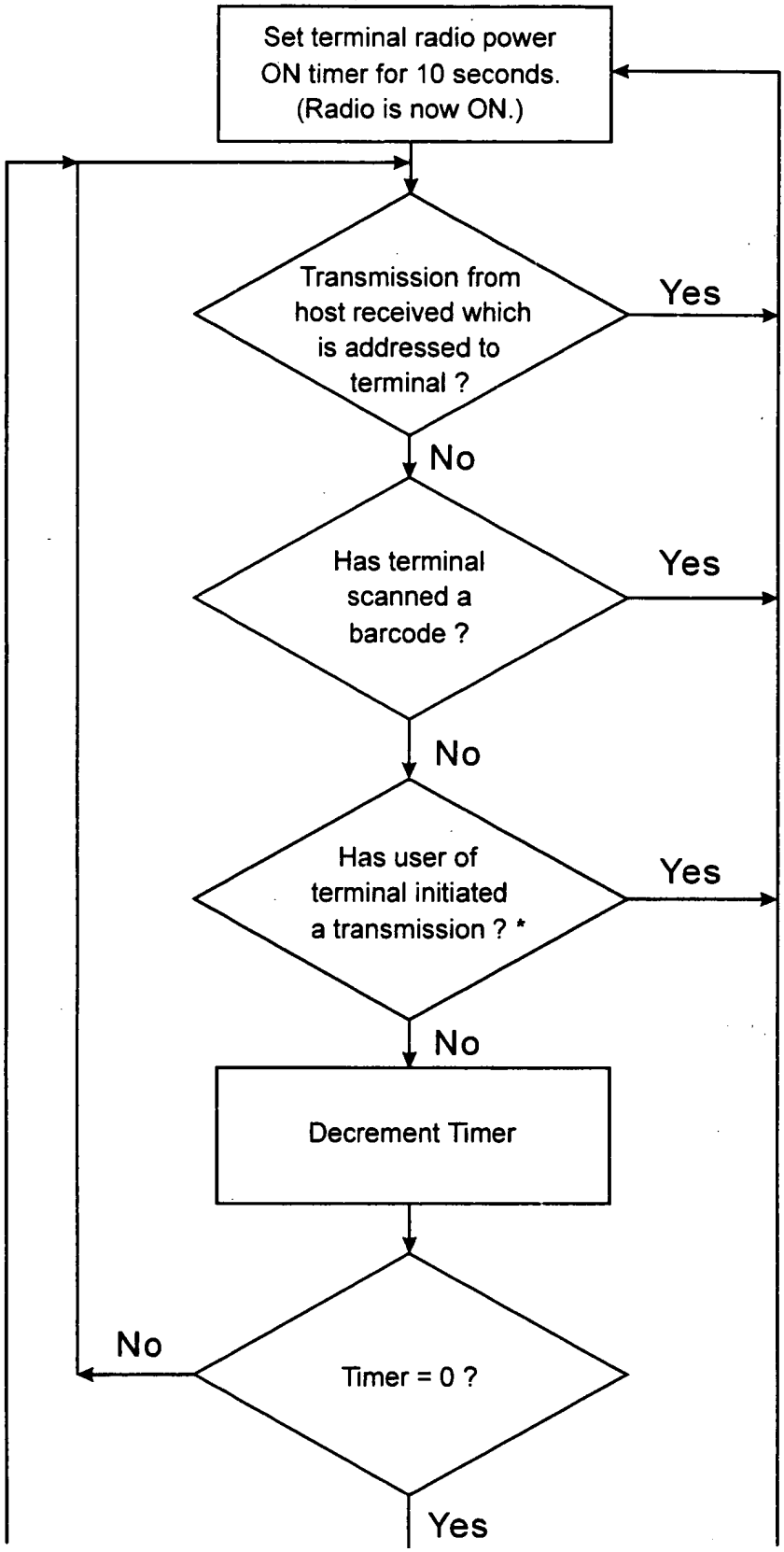

Base Station 3021
Tx
Rx
4040
4041
4042
4043
4044
Poll 3070
4051
4052
4052A
4052B
4052C
Ack. Message
4053
Poll 3015
4054
Roaming Terminal 3017
Tx-On
Rx-On
Off
4510
4511
4512
4507
4514
0
Roaming Terminal 3016
4500
4501
4502
Roaming Terminal 3015
4504
4505
4506
t_1
t_2
t_3
Time

Fig.28



* The user of the terminal initiates a transmission by pressing the 'ENTER' or, depending on the specific software version, any of the function keys. Pressing these keys causes the terminal to power up the radio and send any data entered by the user.

Fig.29

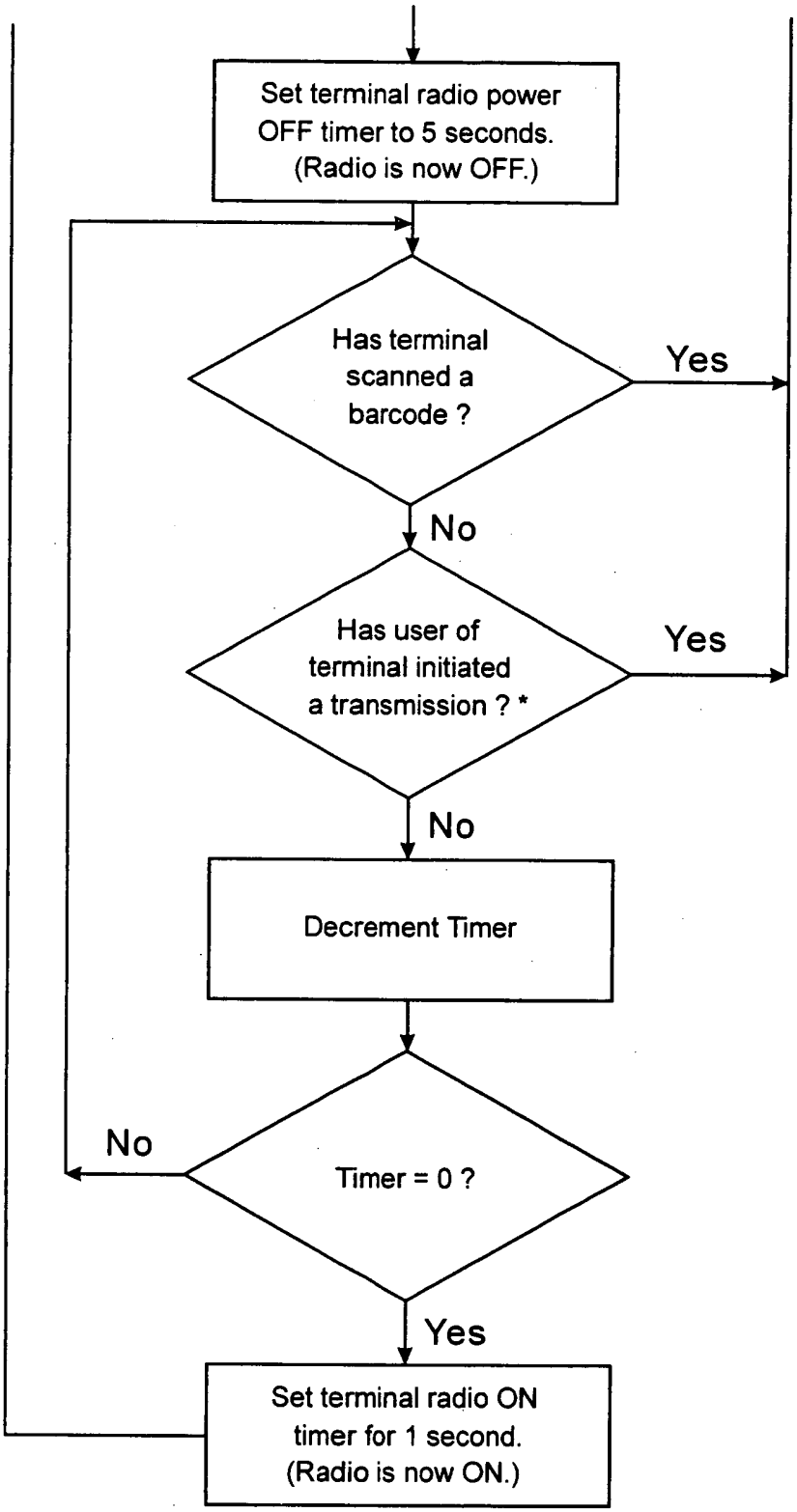

Set terminal radio power OFF timer to 5 seconds. (Radio is now OFF.)
Has terminal scanned a barcode ?
Yes
No
Has user of terminal initiated a transmission ? *
Yes
No
Decrement Timer
Timer = 0 ?
No
Yes
Set terminal radio ON timer for 1 second. (Radio is now ON.)

Fig.30